



U.S. Department of  
Transportation  
**Federal Highway  
Administration**

# Memorandum

Subject: **Information:** Collection of Element Level  
Data for National Highway System Bridges

Date: March 12, 2013

From: */s/ Original Signed by*  
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In Reply Refer To:  
HIBT-30

To: Federal Lands Highway Division Engineers  
Director of Technical Services  
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This memorandum provides initial guidance on the collection of element level data for bridges on the National Highway System (NHS). Section 1111 of the Moving Ahead for Progress in the 21st Century Act (MAP-21) modified 23 U.S.C. 144, which requires each State and appropriate Federal agency to report bridge element level data to the Secretary.

The following are frequently asked questions and answers regarding the collection of element level data for NHS bridges:

## **When does the requirement to collect element level bridge inspection data for NHS bridges take effect?**

In accordance with 23 U.S.C. 144(d)(2), commencing on October 1, 2014, State and Federal agencies that have not already done so are to begin collecting element level data as each NHS highway bridge is field inspected in accordance with 23 CFR 650 Subpart C.

## **When will the element level data for NHS bridges be reported to the Federal Highway Administration (FHWA)?**

As a supplement to the National Bridge Inventory (NBI) data submission due April 1, 2015, and every year thereafter, each State and Federal agency will also provide element level bridge inspection data for bridges on the NHS to the FHWA for inclusion in the NBI.

## **How will the data be submitted?**

Initially, the element level bridge inspection data is to be submitted as an extensible markup language (XML) file separate from the NBI 432 character text file. Both the NBI and the element data files are to be fully populated with all appropriate data items. In the future, FHWA intends to establish a process for accepting a single data file containing both NBI and element data.

### **What elements are to be reported for NHS bridges?**

Later in 2013, the Office of Bridge Technology will provide additional information regarding the bridge elements to be reported, along with necessary basic bridge identification and inspection items. An XML Schema will be released at that time. Working in partnership with the American Association of State Highway Transportation Officials (AASHTO), Subcommittee on Bridges and Structures (SCOBS), we intend to refer to the AASHTO Manual for Bridge Element Inspection for element descriptions, quantity calculations and condition state definitions. The AASHTO Manual for Bridge Element Inspection, which is currently being updated, will be a topic of discussion at the June, 2013 SCOBS annual meeting.

### **Does the FHWA intend to mandate element level bridge inspection training?**

The National Bridge Inspection Standards (NBIS) address the training requirements for staff involved in the bridge inspection program. FHWA has modified its suite of National Highway Institute (NHI) bridge inspection training courses to incorporate the latest information available on element level bridge inspection. In addition to ensuring that the minimum training requirements of the NBIS are met, bridge owners should assess any additional needs they may have in the area of element level inspection and seek appropriate training.

### **What can State and Federal Agencies do at this time to prepare?**

The process flow chart in Attachment One delineates the kind of internal and external activities that are part of the NHS element level bridge inspection condition data collection process. As State and Federal agencies prepare for the collection of element level data for NHS bridges they should be made aware of the available training that the FHWA offers.

The FHWA Resource Center has developed training titled "Introduction to Element Level Bridge Inspection (ELBI)" based on material in the AASHTO Guide Manual for Bridge Element Inspection. The target audience is Federal, State, and local highway agency employees, and consultants involved in inspecting bridges or in charge of a bridge inspection unit. ELBI training can be tailored to specific agency needs for either one to two day training sessions. Additionally, the following FHWA NHI courses<sup>[1]</sup> include element level bridge inspection material:

- FHWA-NHI-130053 Bridge Inspection Refresher Training;
- FHWA-NHI-130054 Engineering Concepts for Bridge Inspectors;
- FHWA-NHI-130055 Safety Inspection of In-service Bridges;
- FHWA-NHI-130101 Introduction to Safety Inspection of In-Service Bridges, web based training.

### **When do State and Federal Agencies need to complete the collection of element level data for all of their NHS bridges?**

The move to collect element level bridge inspection data is a multi-year effort and requires communication, coordination and collaboration among a number of stakeholders. FHWA recognizes that the first NBI data submittal in April 2015 may not include element data for all

NHS bridges. Preferably, element level data will be field collected at each NHS bridge during the next scheduled inspection after October 1, 2014, or at the latest, the second scheduled inspection after October 1, 2014. The April 2015 data submittal should reflect that element data collection has commenced for at least some, if not all, NHS bridges.

### **Why is the element level bridge inspection data needed?**

In addition to the legal requirement to collect element level data for NHS bridges under 23 U.S.C. 144, the granularity of bridge condition information afforded by element level inspection data provides for improved bridge management decision-making through enhanced deterioration forecasting and bridge condition evaluation. Element inspection data also provides for the development and use of meaningful performance measures.

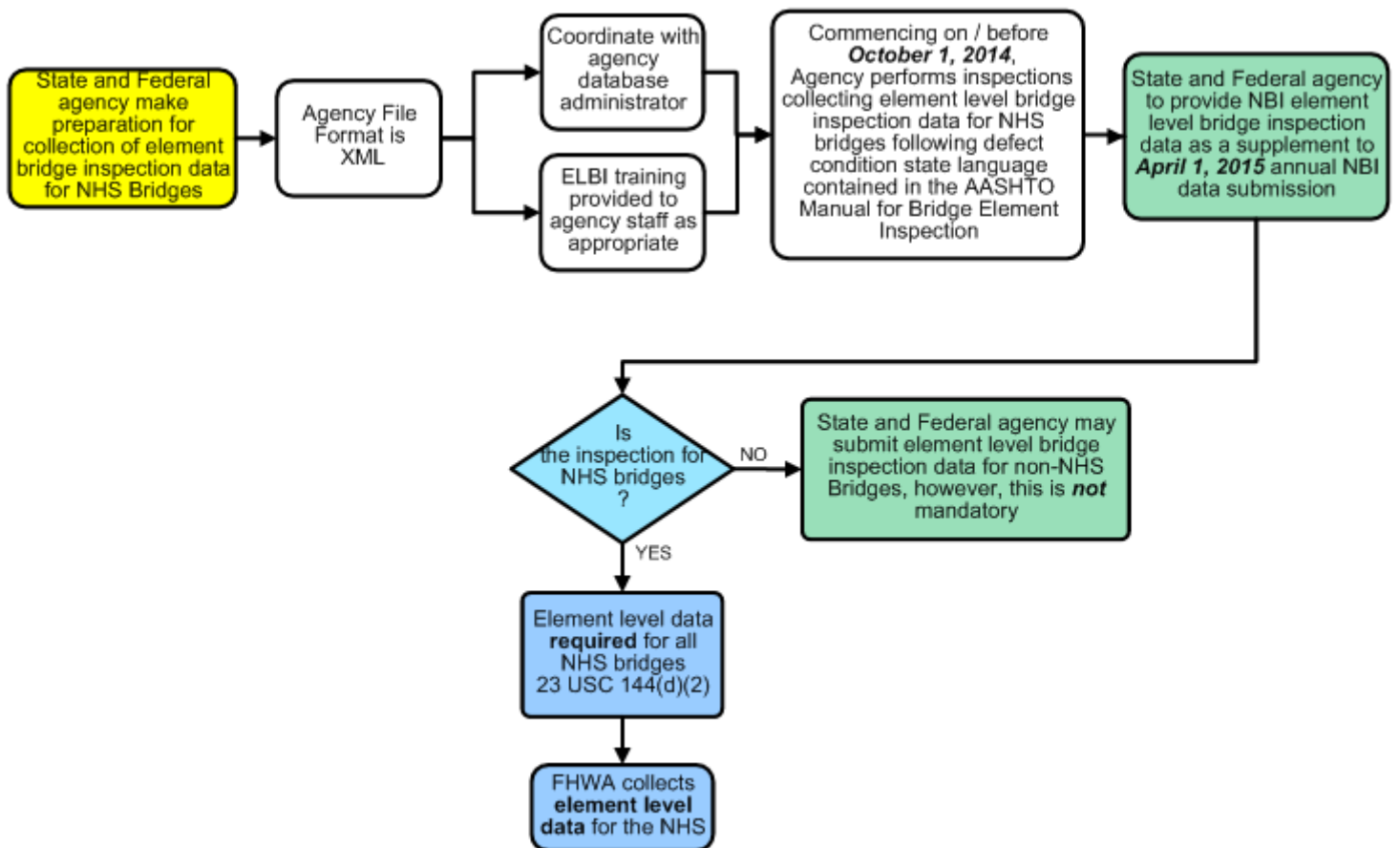
We will continue to keep you updated as we move forward so that you can respond to inquiries from your partners and stakeholders. Please share this update with your State DOT or Federal Agency partners. Mr. Wade F. Casey, P.E. may be contacted at 202-366-4606 or [Wade.Casey@dot.gov](mailto:Wade.Casey@dot.gov) for further information on this initiative.

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[1] Refer to the NHI website located at: <http://www.nhi.fhwa.dot.gov/default.aspx> for course descriptions and scheduling.

## Attachment

### NHS Element Level Bridge Inspection Condition Data Collection Process



Revised on February 14, 2013

Created October 3, 2011